

- Fig. 4.* Ditto, with second root-cell and rootlet-cell formed (lateral view): (*d*) primary nucleus received into the dilatation of the cell-wall, *d'*, and rendered stationary; (*g*) oblique, sigmoid septum; (*h*) rootlet-cell; (*k*) secondary nucleus, elongated, presenting the hyaline vacuole in plurality; (*l*) nucleus of rootlet-cell. The remaining fixed protoplasm of the first root-cell having now been broken down by the vacuoles, circulates freely, with the rotating protoplasm, over the septum of the second root-cell and that of the rootlet-cell.
- Fig. 5.* Ditto, ditto, with first or duplicating septum of rootlet-cell formed, and multiple division of primary nucleolus (direct view): (*d*) primary nucleus with nucleolus divided into smaller nucleoli; (*m*) vacuoles beginning to break down fixed protoplasm in the lower part of second root-cell; (*n*) septum duplicating rootlet-cell; (*o, o*) nuclei of rootlet-cells; (*p*) lower extremity of second root-cell which is partly behind rootlet-cell.
- Fig. 6.* Ditto, ditto, with rootlet-cell quadrisected, and primary nucleus become effete (direct view): (*d*) effete nucleus from which the small nucleoli have disappeared; (*q, q, q, q*) nuclei of rootlet-cells; (*s*) second septum of rootlet-cell; (*t*) lower part of fixed protoplasm in second root-cell broken down and become rotatory. This cell is now brought into the state of figure 2.
- Fig. 7.* More magnified view of primary nucleus when young, 1-300th of an inch in diameter: (*a*) nuclear utricule; (*b*) mucus occupying its interior; (*c*) nucleolus; (*d*) hyaline vacuole.
- Fig. 8.* Ditto of primary nucleus when old; hyaline vacuole in plurality.
- Fig. 9.* Secondary nucleus soon after becoming visible; presenting double nucleoli.
- Fig. 10.* Ditto, some time after this, with nucleoli united. The next stage is represented in fig. 7 and so on.
- Fig. 11.* Nucleus with double nucleoli, presenting a transparent ring round them respectively, indicative of the presence of a capsule.
- Fig. 12.* Lateral view of primary nucleus after having become stationary, presenting (*a*) vacuoles in its interior.
- Fig. 13.* Elongated sac-like form of primary nucleus after having become stationary; presenting small nucleoli also elongated (*a, a, a*). This sac, which is a frequent termination of the nuclear utricule, is sometimes very long, and more or less irregular in form than the figure.
- Fig. 14.* Globular cells connected with the "irregularly shaped bodies" (*e, e*); sometimes seen without the latter: (*a*) common form of this "body."
- Fig. 15.* "Granules" much magnified: (*a*) round, elliptical, greenish; (*b*) angular, colourless.

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III.—On two species of Echinodermata new to the Fauna of Great Britain. By L. BARRETT, F.G.S.

[With a Plate.]

THE two following species are interesting additions to our fauna, made by Mr. M'Andrew. The *Amphidotus* agrees with the brief description of *A. gibbosus*, Agass., in the Ann. Sc. Nat. t. viii. p. 11: the *Comatula* is new.

